

WVIOP Status

Friday, 26 September 1997: Water vapor IOP Special Observations were conducted with no clouds below 8 km and scattered cirrus above. Cloud flights began shortly after noon with the Altus UAV, its Twin Otter escort and the ND Citation. The King Air sampled the clouds later in the afternoon. The scheduled water vapor night flight of the North Dakota Citation was canceled because of an aircraft brake problem and improper operation of the frost-point hygrometer. The CART Raman ran continuously except for a brief shutdown near nightfall and the GSFC Raman was run all night (8:00P to 7:00A). Many successful tethersonde/chilled mirror ascents were made using both the standard tethered balloon system and also a larger balloon on the Colorado kite setup. The larger balloon allowed profiling up to the ceiling of 1 km. Presentations at our 2:00 meeting included yesterday's data from the CART Raman Lidar, GSFC Raman comparisons with BBSS profiles and an interesting aerosol distribution, microwave tip-calibration results expected to account for the recent discrepancy between ETL channels, and solar total precipitable water results showing good agreement between the NASA Ames SPM and the MFRSR (but higher than the microwave and sonde).

Weather: Cirrus clouds increased throughout the day, with beautiful scattered patterns filling the sky at sunset. Dramatic display of optical effects (dual haloes, arc and sun dogs) in early afternoon. Water amounts were still quite low, but increased from about 1.5 cm to 2 cm during the day. Winds were quite light.

INSTRUMENT	STATUS/COMMENTS
<u>Microwave</u>	
CART (23.80/31.4 GHz)	Operational (completed tip-calibration mode in the AM)
NOAA-1 (23.87/31.65)	Operating continuously
NOAA-2 (20.65/31.65)	Operating continuously
NASA DOER (5ch 22/36/89)	Operated
NASA MIR (89/150/183/220)	Operated
<u>Raman Lidar</u>	
CART	Operated continuously, except for short near 7:00P
NASA, Scanning	Operated from about 8:00P-7:00A
<u>Tethersonde Chilled Mirror</u>	
	Many successful ascents with standard tethersonde balloon and larger balloon system ("blimp") operated by U of Colorado along with LANL chilled mirror team

Tower Sensors

CART 60m Qualimetrics	Operational
CART 60m Vaisala	Operational
CART 25m Qualimetrics	Operational
CART 25m Vaisala	RH sensor replaced. Power problem from 4P until about 10P. Data acquisition success unverified
Chilled Mirror 60m	Operated continuously
Chilled Mirror 25m	Operated continuously, except for power problem correlated with Vaisala RH replacement (4-10P LDT)

BBSS Launch Site Ref.

CART, Vaisala	Continuous operation
Chilled Mirror	Operated continuously

BBSS (CART)

Central Facility	Normal Operations
BF, digi-CORA	Dual Operations continue

<u>SMOS (CART)</u>	Operational
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AERI

CART (AERI-01)	Operational
Prototype (AERI-00)	Operated most of the day
ETL FTS	Operated all day

<u>GPS (NCAR)</u>	Operational
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<u>MFRSR (CART)</u>	Operational
<u>MFRSR/RSS (Albany)</u>	Operational

<u>Cimel Sunphotometer</u>	Operational
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<u>Twin Otter Chilled Mirror</u>	Cirrus flight with Altus
<u>Altus UAV</u>	Cirrus flight, 12:30 takeoff, couple hour duration
<u>North Dakota Citation</u>	Afternoon cloud flight
<u>Wyoming King Air</u>	Afternoon cloud flight
<u>Battelle Gulfstream</u>	Down

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